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10/663,771	09/17/2003	Stephen Kaminski	Q77159	2952

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EXAMINER
RUSSELL, WANDA Z

ART UNIT	PAPER NUMBER
2616	

NOTIFICATION DATE	DELIVERY MODE
09/18/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/663,771	KAMINSKI ET AL.	
	Examiner	Art Unit	
	WANDA Z. RUSSELL	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 July 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. **Claims 1-5, 10, and 11-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bichot et al. (Pub No. US 2004/0001468), further in view of Chuah (Pub No. US 2003/0076803).

For **claim 1**, Bichot et al. teach an interface unit (IWU, 18-Fig. 1) comprising:

a first component for establishing a connection (line 20 is a connection in Fig. 1) to a radio network controller (RNC, 22 in Fig. 1) of a radio network sub-system (12 in Fig. 1) by means of a first communication protocol (the IWU 18 establishes a linkage with the wireless telephony network 12 by reserving a GPRS radio channel 20 of the kind otherwise used by mobile terminal users (not shown) to communicate directly with the wireless telephony network through a Node 21 served by a radio network controller (RNC) 22, refer to [0015], line 6 to end);

a second component for establishing a connection (3 paths between MT to AP in Fig. 1) to an access point (AP, 16 in Fig. 1) of a wireless local area network (WLAN, 10 in Fig. 1) by means of a second communication protocol (a well-known wireless communications protocol, refer to [0014], line 14),

a third component for converting the second communication protocol to the first communication protocol and for converting the first communication protocol to the second communication protocol (exchanges information with RNC 23 in communicates with the IWU 18 of the WLAN 10 through the port 21, refer to [0017], lines 6-8, and 1-end. It is obvious that exchanging information between two protocols described above involves protocol conversion),

a fourth component for providing data indicative of a load situation (signaling path in Fig. 1. The signaling requires response from receivers to establish the signaling path. Whether the initiators get response from the network is directly related to load situation).

However, Bichot et al. fail to specifically teach a connection to a plurality of access points of a wireless local area network, wherein each of the plurality of access points covers a respective physical cell, and a plurality of physical cells including the respective physical cell constitutes a logical cell; and providing data indicative of a load situation of the logical cell to the radio network controller, wherein the load situation indicates a total load of the plurality of access points within the logical cell as a fraction of an integrated capacity of the plurality of physical cells within the logical cell.

Chuah teaches a connection to a plurality of access points (122s in Fig. 6) of a wireless local area network (120 in Fig. 6, and refer to [0035], line 3 indicating that 120 is a WLAN), wherein each of the plurality of access points covers a respective physical cell (Fig. 3), and a plurality of physical cells (bottom of Fig. 4. Note that APs can be treated as base stations which communicate with wireless units over the air, refer to

[0034], line 10) including the respective physical cell constitutes a logical cell (logical or virtual connections, refer to [0024], lines 8-9); and

providing data indicative of a load situation (operating or control parameter(s), identifier(s) and/or measurements, such as a traffic load, refer to [0020], lines 8-10) of the logical cell to the radio network controller, wherein the load situation indicates a total load of the plurality of access points within the logical cell as a fraction of an integrated capacity of the plurality of physical cells within the logical cell (logical or virtual connections, refer to [0024], lines 8-9).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Bichot et al. with Chuah to obtain the invention as specified, for more varieties of the access control.

For **claim 2**, Bichot et al. and Chuah teach everything claimed as applied above (see claim 1). In addition, Bichot et al. teach the interface unit of claim 1, the connection to the radio network controller being a long distance connection, comprising at least one of an Asynchronous Transfer Mode (ATM)-type connection and an Internet protocol (IP)-type connection (MT-AP-Internet –Fig. 1, refer to [0022], line 7).

For **claim 3**, Bichot et al. and Chuah teach everything claimed as applied above (see claim 1). In addition, Bichot et al. teach the interface unit of claim 1, the connection to the at least one access point being a short distance connection, comprising an Ethernet-type connection (IEEE 802.11, [0014], line 15).

For **claim 4**, Bichot et al. and Chuah teach everything claimed as applied above (see claim 1). However, Bichot et al. fail to specifically teach the interface unit of claim 1

further comprising a fifth component for balancing the total load of the plurality of the access points.

Chuah teaches the interface unit of claim 1 further comprising a fifth component for balancing the total load of the plurality of the access points (With the reconfigurable radio access system, different load-balancing schemes can be used to distribute the load among the different RNCs and Nodebs, refer to [0030], lines 1-3).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Bichot et al. with Chuah to obtain the invention as specified for improving the system performance.

3. **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over Bichot et al. (Pub No. US 2004/0001468), further in view of Chuah (Pub No. US 2003/0076803), and Soderbacka et al. (Pub No. US 2003/0114158).

Bichot et al. and Chuah teach everything claimed as applied above (see claim 1). However, they fail to specifically teach the interface unit of claim 1 further comprising a sixth component for hand over control of wireless terminals between the plurality of access points.

Soderbacka et al. teach the interface unit of claim 1 further comprising a sixth component for hand over control ([0029], line 2) of wireless terminals (5 in Fig. 1) between the plurality of access points (1, 2 in Fig. 1).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Bichot et al. with Chuah and Soderbacka et al. to obtain the invention as specified for reliability of different types of access points.

For Claim 10, it is a method claim providing of a 3GPP/UMTS-type system (in 12-Fig. 1) corresponding to claim 1. Therefore it is rejected for the same reason above.

For **claim 11**, Bichot et al. and Chuah teach everything claimed as applied above (see claim 1). However, Bichot et al. fail to specifically teach the interface unit of claim 1, wherein the radio network controller controls hand over between the logical cells, and the radio network controller does not control hand over between the plurality of physical cells.

Chuah teaches the interface unit of claim 1, wherein the radio network controller controls hand over between the logical cells, and the radio network controller does not control hand over between the plurality of physical cells (routers 96a (R1) and 96b (R2) can be used to establish the direct logical or virtual connections between the RNC 1 90 and the Nodebs 92a-c, refer to [0024], lines 8-9. Note that it states it can establish logical or virtual connections, and it does not state it must have direct connections between the plurality of physical cells. Therefore it teaches that the radio network controller does not control hand over between the plurality of physical cells as claimed).

For **claims 12 and 13**, they are the same as claim 11 except depending on claims 6 and 10 respectively, therefore they are rejected for the same reason above.

For **claim 14**, Bichot et al. teach an interface unit (IWU, 18-Fig. 1) comprising:

a first component for establishing a first connection (line 20 is a connection in Fig. 1) to a radio network controller (RNC) (22 in Fig. 1) of a radio network sub-system (12 in Fig. 1) by means of a first communication protocol used in a first network (the IWU 18 establishes a linkage with the wireless telephony network 12 by reserving a

GPRS radio channel 20 of the kind otherwise used by mobile terminal users to communicate directly with the wireless telephony network through a Node 21 served by a radio network controller (RNC) 22, refer to [0015], line 6 to end),

a second component for establishing a second connection (3 paths between MT to AP in Fig. 1) to a plurality of access points (AP, 16 in Fig. 1) of a wireless local area network (WLAN, 10 in Fig. 1) by means of a second communication protocol used in a second network (a well-known wireless communications protocol, refer to [0014], line 14), wherein each of the plurality of access points covers a respective physical cell, and a plurality of physical cells including the respective physical cell constitutes a logical cell;

a third component for converting the second communication protocol to the first communication protocol and for converting the first communication protocol to the second communication protocol (exchanges information with RNC 23 in communicates with the IWU 18 of the WLAN 10 through the port 21, refer to [0017], lines 6-8, and 1-end. It is obvious that exchanging information between two protocols described above involves protocol conversion); and

a fourth component for providing data indicative of a load situation (signaling path in Fig. 1. The signaling requires response from receivers to establish the signaling path. Whether the initiators get response from the network is directly related to load situation).

However, Bichot et al. fail to specifically teach the first connection being established not by way of any node served in the first network and coupled to the RNC; a connection to a plurality of access points of a wireless local area network, wherein

each of the plurality of access points covers a respective physical cell, and a plurality of physical cells including the respective physical cell constitutes a logical cell; and providing data indicative of a load situation of the logical cell to the radio network controller, wherein the load situation indicates a total load of the plurality of access points within the logical cell as a fraction of an integrated capacity of the plurality of physical cells within the logical cell.

Chuah teaches the first connection being established not by way of any node served in the first network and coupled to the RNC (Nodeb and RNC are directly connected in Fig. 1); a connection to a plurality of access points (122s in Fig. 6) of a wireless local area network (120 in Fig. 6, and refer to [0035], line 3 indicating that 120 is a WLAN), wherein each of the plurality of access points covers a respective physical cell (Fig. 3), and a plurality of physical cells (bottom of Fig. 4. Note that APs can be treated as base stations which communicate with wireless units over the air, refer to [0034], line 10) including the respective physical cell constitutes a logical cell (logical or virtual connections, refer to [0024], lines 8-9); and

providing data indicative of a load situation (operating or control parameter(s), identifier(s) and/or measurements, such as a traffic load, refer to [0020], lines 8-10) of the logical cell to the radio network controller, wherein the load situation indicates a total load of the plurality of access points within the logical cell as a fraction of an integrated capacity of the plurality of physical cells within the logical cell (logical or virtual connections, refer to [0024], lines 8-9).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Bichot et al. with Chuah to obtain the invention as specified, for more varieties of the access control.

For **claim 15**, Bichot et al. and Chuah teach everything claimed as applied above (see claim 1). In addition, Bichot et al. teach the interface unit of claim 14,

wherein the first network is a Universal Mobile Telecommunications System (UMTS) network (3GPP/UMTS, 12-Fig. 1) and the second network is a wireless local area network (WLAN) (WLAN, 10-Fig. 1),

However, Bichot et al. fail to specifically teach wherein the any node coupled to the RNC is a Node B to which mobile terminals located in the UMTS network are coupled.

Chuah teaches wherein the any node coupled to the RNC is a Node B to which mobile terminals located in the UMTS network are coupled (18b, 20b, and 22b –Fig. 1).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Bichot et al. with Chuah to obtain the invention as specified, for more varieties of the access control.

For **claim 16**, it is the same as claim 2 except depending on claim 14, therefore it is rejected for the same reason above.

For **claim 17**, it is the same as claim 10 except related to claim 14, therefore it is rejected for the same reason above.

4. **Claims 6, 7, and 18-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Chuah (Pub No. US 2003/0076803), further in view of Bichot et al. (Pub No. US 2004/0001468).

For **claim 6**, Chuah teaches a telecommunication system (Fig. 3) comprising:

a radio network controller (RNC 1-Fig. 3) for coupling to a core network (86-Fig. 3) and for coupling to one or more Node Bs of a Universal Mobile Telecommunications System (UMTS) network (82a, 82b, 82c-Fig. 3),

a wireless local area network having a plurality of access points (AP1-3 –Fig. 6),

an interface unit ([0009], lines 20-21) for coupling the plurality of access points to the radio network controller, the interface unit having a component for providing data indicative of a load situation of a logical cell to the radio network controller,

wherein each of the plurality of access points covers a respective physical cell (bottom of Fig. 1), and a plurality of physical cells including the respective physical cell constitutes the logical cell (logical or virtual connections, refer to [0024], lines 8-9. Note that APs can be treated as base stations which communicate with wireless units over the air, refer to [0034], line 10), and

wherein the load situation (operating or control parameter(s), identifier(s) and/or measurements, such as a traffic load, refer to [0020], lines 8-10) indicates a total load of the plurality of access points within the logical cell as a fraction of an integrated capacity of the plurality of physical cells within the logical cell (logical or virtual connections, refer to [0024], lines 8-9).

However, Chuah fails to specifically teach the interface unit having a component for providing data indicative of a load situation of the access points to the radio network controller.

Bichot et al. teach the interface unit having a component for providing data indicative of a load situation of the access points to the radio network controller (signaling path –Fig. 1. The signaling requires response from receivers to establish the signaling path. Whether the initiators get response from the network is related to load situation).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Chuah with Bichot et al. to obtain the invention as specified for the advantage of a loose coupling without the risk of sending sensitive control information over a non-secure link.

For **claim 7**, Chuah and Bichot et al. teach everything claimed as applied above (see claim 6). In addition, Chuah teaches the telecommunication system of claim 6 further comprising a component for balancing the total load of the plurality of access points, the component for load balancing being comprised in the interface unit, (With the reconfigurable radio access system, different load-balancing schemes can be used to distribute the load among the different RNCs and Nodebs, refer to [0030], lines 1-3, and The interface between the a base station and an RNC is referred to as the Iub interface, refer to [0009], lines 20-21).

For **claim 18**, Chuah teaches a telecommunication system (Fig. 1) comprising:

a radio network controller (RNC) (22b-Fig. 1) for coupling to a core network (28-Fig. 1) and for coupling to one or more Node Bs coupled to mobile terminals (166 and 186 in Fig. 1) located in a Universal Mobile Telecommunications System (UMTS) network (UPTS system, refer to [0019], line 9) using a first communication protocol (PDP, refer to [0008], last line),

a wireless local area network (WLAN) having a plurality of access points (AP1-3 –Fig. 6) using a second communication protocol (IP, refer to [0035], line 8),

the interface unit for coupling the plurality of access points directly to the RNC not by way of any node served in the first network and coupled to the RNC (The interface between the a base station and an RNC is referred to as the Iub interface, refer to [0009], lines 20-21),

wherein each of the plurality of access points covers a respective physical cell (bottom of Fig. 1), and a plurality of physical cells including the respective physical cell constitutes the logical cell (logical or virtual connections, refer to [0024], lines 8-9. Note that APs can be treated as base stations which communicate with wireless units over the air, refer to [0034], line 10).

However, Chuah fails to specifically teach the interface unit having a component for providing data indicative of a load situation of the access points to the radio network controller.

Bichot et al. teach the interface unit having a component for providing data indicative of a load situation of the access points to the radio network controller (signaling path –Fig. 1. The signaling requires response from receivers to establish the

signaling path. Whether the initiators get response from the network is related to load situation).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Chuah with Bichot et al. to obtain the invention as specified for the advantage of a loose coupling without the risk of sending sensitive control information over a non-secure link.

For **claims 19 and 20**, they are the same as claims 15 and 16 except depending on claims 14 and 18 respectively, therefore they are rejected for the same reason above.

5. **Claims 8, and 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Chuah (Pub No. US 2003/0076803), further in view of Bichot et al. (Pub No. US 2004/0001468), as applied to claim 6 above, and Soderbacka et al. (Pub No. US 2003/0114158).

For **claim 8**, Chuah and Bichot et al. teach everything claimed as applied above (see claim 6). However, they fail to specifically teach the telecommunication system of claim 6 further comprising a component for hand over control of wireless terminals between the plurality of access points.

Soderbacka et al. teach the telecommunication system of claim 6 further comprising a component for hand over control ([0029], line 2) of wireless terminals (5-Fig. 1) between the plurality of access points (1, 2 –Fig. 1).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Chuah with Bichot et al. and Soderbacka et al. to obtain the invention as specified for reliability of different types of access points.

For **claim 9**, Chuah, Bichot et al. and Soderbacka et al. teach everything claimed as applied above (see claim 6, and 8). However, they fail to specifically teach the telecommunication system of claim 8, the component for hand over control being comprised in the radio network controller.

Soderbacka et al. teach the telecommunication system of claim 8, the component for hand over control being comprised in the radio network controller (A reason for an intersystem handover is QoS (quality of service) requirements of requested services. The operator of the communication system defines service based handover criteria according to its preferences. These criteria are then stored in a service priority table in the core network, which initiates the handover. The same table resides additionally in the radio network controller (RNC) of an UTRAN of the communication system, refer to [0007], lines 8-10).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine Chuah with Bichot et al. and Soderbacka et al. to obtain the invention as specified for better control of the handover process.

Response to Amendment

6. Applicant's amendment filed 7/2/2008 has been received and considered.

Response to Arguments

7. Applicant's arguments filed 7/2/2008 have been fully considered but they are not persuasive.

8. Applicant argues that Chuah does not disclose load balancing between Node Bs or APs, or load balancing of a group of Node Bs or APs. This reference only concerns about load balancing between RNCs or MAs for assigning each RNC or MA to a respective Node B or AP based on resource availability information on each RNC or MA (paragraph [0027], line 2-3).

In response, the Examiner respectfully disagrees.

Chuah teaches:

> [0030] With the reconfigurable radio access system, different **load-balancing** schemes can be used to distribute the load **among** the different RNCs and **Nodebs**. Such load balancing schemes can be based on prices charged for different services. One load balancing scheme could be based on QoS. In an embodiment of such a scheme, the RNCs could broadcast information to all Nodebs informing the Nodebs which RNCs do not want to accept any more connections. Nodeb (via provisioning) is provided with a list of RNCs with which it can communicate. Nodebs choose an RNC from the list to start with each connection request.

Applicant only claims load-balancing in claim 4, not in claim 1. The above paragraph was quoted in last Office Action for claim 4. The rejection of claims remains the same as before.

9. Rejections of other claims remain effective.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to WANDA Z. RUSSELL whose telephone number is (571)270-1796. The examiner can normally be reached on Monday-Thursday 9:00-6:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Seema S. Rao/
Supervisory Patent Examiner, Art Unit 2616

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